

Title: Recognizing a figure that has been rotated, reflected, or translated		
Grade: HS		
PA Core Standard: CC.2.3.HS.A.1 Use geometric figures and their properties to represent transformations in the plane		
PA Connector:		Recognize a figure that has been rotated, reflected, or translated
Strand: Geometry		Family: Transforming and Graphing
Progress Indicator: <i>H.GM.1c Applying understanding of rotations, reflections, and translations to construct figures (e.g., using coordinates, models, drawings, transparencies, dynamic geometry software)</i>		
Big Idea(s): Geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization.		
Essential Question(s): How are spatial relationships, including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?		
Foundational Knowledge: <ul style="list-style-type: none"> • Use coordinates to draw plane figures in a coordinate plane. • Identify a change of orientation of a plane figure. • Distinguish between translations, rotations, and reflections. 		
Key Vocabulary, Concepts and Symbols: <ul style="list-style-type: none"> • translation, rotation, reflection, coordinate plane, orientation 		
Suggested Instructional Strategies: <ul style="list-style-type: none"> • Model-Lead-Test*: <ul style="list-style-type: none"> ○ Use math tools (e.g., tangrams, Legos, stickers) to demonstrate the transformation of the shape. Demonstrate one transformation at a time • Use most-to-least prompting to teach students to demonstrate transformations • Given a picture or drawing of a shape, students use whatever tool is appropriate to transform the shape. • Using think aloud, model transformation of a shape. Provide practice examples requiring students to identify a transformation from several choices. 		
Supports and Scaffolds Considerations: <ul style="list-style-type: none"> • Manipulatives such as Geoboards, tangram shapes, pattern blocks, magnetic pattern blocks • Legos to construct then manipulate the object • Label the sides of a cube (dice) with letters or stickers (whichever is more recognizable to the student), rotate the cube and note the change. • Graphic Organizer • Provide an arrow to show the direction of the movement of the object to create a flip, a turn, or a slide (transformation). • Assistive Technology (e.g., interactive whiteboard or other software, calculator , communication device) • Virtual manipulatives 		
Key Word Search: translation, rotation, reflection, geometry		